REMARKS

Upon entry of the present amendment, claims 1-26 are pending in the application.

Claims 1 and 3 have been amended.

No claims have been added or canceled.

No new matter has been introduced by the foregoing amendment.

Reconsideration is respectfully requested in view of the foregoing amendment and following remarks.

1. Allowable Subject Matter.

Applicants appreciate the Examiner's indication of allowability regarding claims 6-9, 12-13, and 26.

2. Rejection of claims 1-2, 4-5, 10-11, 14-18, and 22-25 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,589,324 to Kamo et al., hereafter "Kamo".

Independent claim 1 is directed to an aqueous dispersion comprising (A) at least one swellable polymer and/or oligomer comprising at least one functional group that is at least one of an anionic functional group, a potentially anionic functional group, and/or a nonionic hydrophilic functional group, (B) surface-modified, cationically stabilized, inorganic nanoparticles of at least one kind and (C) at least one amphiphile, wherein the dispersion has a pH of from 2 to 7.

Kamo teaches a chromium-free agent for treating metallic surface comprising (i) at least one of (A) a mixture of an aluminum salt and an inorganic oxide particle and (B) an aluminum containing inorganic oxide particle comprising aluminum, oxygen and at least one element other than these two, (ii) a salt of a metal other than aluminum, (iii) a phosphorus compound, and (iv) a resin and/or a precursor thereof (Kamo, abstract.) Acrylic resin, polyester resin, epoxy resin, acryl-epoxy resin, acryl-modified polyester resin, epoxy-modified polyester resin, urethane-modified polyester resin, acryl-modified polyurethane resin and acryl-modified polyester polyurethane resin are preferable (Kamo, column 7, lines 43-47.)

To establish a prima facie case of obviousness, three basic criteria must be met: (1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) There must be a reasonable expectation of success; and (3) the prior art reference (or combined references) must teach or suggest all limitations of the claim(s); MPEP 2143.

Applicants respectfully submit that Kamo does not teach or suggest all of independent claim 1's limitations for at least the following reasons.

Applicants' claim 1 has been amended to recite that the aqueous dispersion comprises from 1 to 10% by weight of at least one amphiphile (C), based on the sum (A) + (B) + (C). Support for this amendment can be found at least in the Application as filed, page 22, paragraph [0103]. It is to be understood that the foregoing amendment is made in order to streamline prosecution in this case by limiting examination and argument to certain claimed embodiments that presently are considered to be of immediate commercial significance. Amendment of the claims is not in any manner intended to, and should not be construed to, waive Applicants' right in the future to seek such unamended or cancelled subject matter, or similar matter (whether in equivalent, broader, or narrower form) in the present application, and any continuation, divisional, continuation-in-part, RCE, or any other application claiming priority to or through the present application, nor in any manner to indicate an intention, expressed or implied, to surrender any equivalent to the claims as pending after such amendments or cancellations.

Applicants respectfully submit that Kamo does not teach or suggest Applicants' 1 to 10% by weight of at least one amphiphile (C). Kamo teaches that the agent for treating metallic surfaces is prepared by dissolution and/or dispersion of <u>each constituent</u> in a solvent. The solvent usable includes organic solvents and aqueous solvents, with preference given to aqueous solvents. Examples of the aqueous solvent include water and a mixture of water and a solvent compatible with water. The solvent compatible with water is exemplified by tetrahydrofuran, methyl ethyl ketone, isopropanol, methanol, ethanol, propanol, acetone, dimethylformamide, dimethylacetamide, dimethyl sulfoxide, dioxane and the like. (Kamo, column 18, lines 32-44, emphasis added).

Kamo thus teaches solvents compatible with water, and further teaches 11 examples of such solvents compatible with water, 4 of which are monoalcohols, while 7 are not. Kamo is further silent regarding the amount of these solvents. Kamo does not teach or suggest amphiphilicity, nor the use of amphiphiles in an amount of 1-10% by weight. There would be no motivation for one with ordinary skill in the art to choose one of the four monoalcohols from among the 17 exemplified solvents, and especially not in an amount of 1-10% by weight. In fact, referring to Kamo's 4 production examples and 60 examples (total 64 examples), it can be seen that none of them teach or suggest the use of an amphiphile in an amount of 1-10% as per Applicants' independent claim 1 as currently amended.

Examples A-1 to A-4 disclose the synthesis of resins. Examples 1-60 disclose using the resin with inorganic particles. Example A-1 does not disclose the use of any of Kamo's solvents which are compatible with water. Example A-2 discloses the use of methyl ethyl ketone and tetrahydrofuran, however, the solvent is then evaporated by heating. Example A-3 discloses the use of isopropyl alcohol as a solvent compatible with water, in an amount of about 12.7% by weight, based on the total weight of the resin and the alcohol. Example A-4 discloses the use of methyl ethyl ketone and isopropyl alcohol as solvents compatible with water, however, then teaches that the solvent remaining in the medium is evaporated by heating.

In addition, none of the examples 1-60, which disclose the use of the resins A-1 to A-4 with an inorganic particle, teach the use of a solvent compatible with water, let alone an amphiphile in an amount of 1-10%. Since Kamo teaches that "each constituent" is dissolved or dispersed in a solvent as emphasized above, and not the entire composition, and since in Kamo's examples the synthesis of the resin is disclosed to sometimes include a solvent compatible in water, but to not include it in the synthesis of the composition (i.e., examples 1-60), Applicants respectfully assert that Kamo does not provide any suggestion or motivation to select monoalcohols from among the 11 examples of solvents compatible with water, and most, importantly, to further include these solvents *with both the resin and inorganic particles*, in the amount of 1-10%.

It is also noted that the foregoing discussion of Kamo's examples expressly disproves the PTO's position that 'cosolvents are typically used in small amounts'. The ultimate legal

conclusion of obviousness must be based on facts or records, not on the Examiner's unsupported allegation that a particular structural modification is "well known" and thus obvious. Subjective opinions are of little weight against contrary evidence. *In re Wagner et al.* 152 U.S.P.Q. 552 (C.C.P.A. 1967). There is thus no teaching in Kamo that would lead one of skill in the art to the particular combination of (A), (B), and (C) set forth in Applicants' amended independent claim 1.

Therefore, Applicants respectfully assert that Kamo does not teach all the elements of independent claim 1 as currently amended, and there's no suggestion or motivation to modify Kamo to arrive at Applicants' claims, nor is there an expectation of success in so doing so. As such, a prima facie case of obviousness is not established by the Examiner.

Withdrawal of the rejection of claims 1-2, 4-5, 10-11, 14-18, and 22-25 under 35 U.S.C. §103(a) as being unpatentable over Kamo is respectfully requested.

Applicants further traverse the remaining assertions set forth in the office action. However, since Kamo fails to render the claims obvious for at least the reasons set forth above, these assertions are moot and are therefore not specifically addressed in detail.

3. Rejection of claims 1-5, 10-11, and 14-25 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,599,631 to Kambe et al., hereafter "Kambe".

Kambe teaches inorganic particle/polymer composites that involve chemical bonding between the elements of the composite (Kambe, abstract.)

Similarly to Kamo, Kambe does not teach or suggest the use of amphiphiles in an amount of 1-10%. Further, Kambe does not motivate one with ordinary skill in the art to arrive at Applicants' amphiphiles in an amount of 1-10% by weight.

Instead, Kambe teaches that hydrophobic particles can be dispersed in nonaqueous solvent, or aqueous solutions with less polar cosolvents (Kambe, column 19, lines 46-51.) Since the particles Kambe refers to are hydrophobic, it is generally understood in the art that "like, best dissolves like", that is, the character of the dispersant should be relatively hydrophobic in order to disperse hydrophobic particles, and thus such a solution of aqueous solvent and organic cosolvent would comprise a substantial amount of cosolvent.

The Examiner alleges that cosolvents are typically used in small amounts and therefore, the amount of 1-10% as presently claimed is obvious to a skilled artisan, absent evidence to criticality of the claimed range. (11/28/2007 Office Action, page 3, final paragraph). Applicants respectfully submit that firstly, Applicants' 1-10% is not based on the total weight of the composition, but is based on the total weight of the swellable polymer (A), particle (B), and amphiphile (C). Therefore, if construed to be based on (A) + (B) + (C) + (solvent), the amount would be substantially less than 1-10%.

Secondly, the Examiner's allegation that Kambe would suggest a cosolvent in an amount of 1-10%, even if the 1-10% by weight refers to the total amount of solvent which would be substantially greater than Applicants' 1-10%, is unfounded. Kambe explicitly teaches that hydrophobic particles are dispersed in nonaqueous solvent, or aqueous solutions with less polar cosolvents. One with ordinary skill in the art would understand that such a hydrophobic particle would require a substantial amount of the organic cosolvent, since it is hydrophobic and better suited to disperse in an organic solvent than in water. In addition, the less polar cosolvent disclosed by Kambe does not direct one with ordinary skill in the art to arrive at Applicants' amphiphiles, since there exists a myriad of less polar cosolvents, which are well outside Applicants' scope of amphiphiles.

Thirdly, even though Kambe is silent regarding amphiphiles, their amounts, or even the amounts of the cosolvents disclosed therein, Kambe discloses the dispersion of the inorganic particles in certain organic solvents. For example, Kambe discloses that 95% of 9.75 milligrams of TiO_2 can be suspended in 13 grams of ethanol. (Kambe, column 30, table 2). This is the equivalent of 99.925% by weight ethanol. Also, ethanol is one of 7 solvents disclosed therein. Therefore, one with ordinary skill in the art reading Kambe would not be motivated to select ethanol out of the many solvents, and then to use it only in an amount of 1-10%.

In addition, Kambe discloses blending 90% by weight polyethylene glycol (a diol) with 10% TiO_2/poly acrylic acid, in ethanol as a solvent. (Kambe, column 34, example 5). This alludes to substantially more than 1-10% ethanol, and, when combined with 90% polyethylene glycol, which is a diol, is indeed substantially more than 1-10% of what the Examiner is construing as Kambe's teaching of an amphiphile.

Therefore, Kambe does not suggest or motivate one with ordinary skill in the art to select Applicants' amphiphile in an amount of 1-10% based on the total weight of the swellable polymer, inorganic particle, and amphiphile.

In view of the above, Applicants respectfully assert that independent claim 1 as currently amended, and dependent claims 2-5, 10-11, and 14-25, are patentable over Kambe under 35 U.S.C. §103(a). Withdrawal of this rejection is respectfully requested.

CONCLUSION

Applicants respectfully submit that the Application and pending claims are patentable in view of the foregoing remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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